

IN THE CLAIMS

1. (canceled)

2. (canceled)

3. (canceled)

4. (currently amended) An apparatus for producing DLC film-coated plastic containers having ~~a top portion~~, a body portion, a bottom portion and a shoulder portion which is located above said body portion, said apparatus comprising an outer electrode unit disposed outside a plastic container, an inner electrode disposed inside said plastic container, a vacuum unit for reducing the inner pressure of the plastic container, a gas feeding unit for feeding a raw material gas of a carbon source into said plastic container which has been placed under a vacuum by said vacuum unit, and a power source unit for applying a voltage between the outer electrode unit and the inner electrode while a carbon source gas is fed into the container, thereby to generate plasma to form a DLC film on an inner surface of the plastic container; wherein the outer electrode unit comprises a first outer electrode disposed along the bottom portion of the plastic container, a second outer electrode disposed along the body portion of the plastic container, and a third outer electrode disposed along the shoulder portion of the plastic container, and an insulator or resistive or capacitive elements are interposed between each of the first outer electrodes electrode and the second outer electrode, and an output terminal of a high frequency oscillator is connected to only the first outer electrode via a matching transformer.

5. (currently amended) An apparatus for producing DLC film-coated plastic containers having ~~a top portion~~, a body portion, a bottom portion and a shoulder portion which is located above said body portion, said apparatus comprising an

outer electrode unit disposed outside a plastic container, an inner electrode disposed inside the plastic container, a vacuum unit for reducing the inner pressure of the plastic container, a gas feeding unit for feeding a raw material gas of a carbon source into the plastic container which has been placed under a vacuum by said vacuum unit, and a power source unit for applying a voltage between the outer electrode unit and the inner electrode while a carbon source gas is fed into the container, thereby to generate plasma to form a DLC film on an inner surface of the plastic container; wherein the outer electrode unit comprises a first outer electrode disposed along the bottom portion of the plastic container, a second outer electrode disposed above the first outer electrode and outside of the plastic container, and at least two other outer electrodes disposed above the second outer electrode and outside of the plastic container. and an insulator or resistive or capacitive elements are interposed between each of the outer electrodes, and an output terminal of a high frequency oscillator is connected to only the first outer electrode via a matching transformer.

6. (canceled)

7. (canceled)

8. (currently amended) A method for producing DLC film-coated plastic containers, comprising the steps of:
disposing a first outer electrode, having an upper edge, outside a plastic container and at the bottom of the plastic container where it extends upwardly along sides of said plastic container in such a manner that said upper edge of the first outer electrode is positioned between the top and the bottom of the plastic container; disposing a second outer electrode outside the plastic container and extending upwardly along the body of said plastic container; interposing the insulator or resistive or capacitive elements between the first outer electrode and the second outer electrode; disposing an inner electrode inside the plastic container and then creating a vacuum inside the plastic container, then feeding a

raw material gas of a carbon source into the plastic container, and applying a voltage between the first and second outer electrodes and the inner electrode thereby to generate plasma to form a DLC film on the inner surface of the plastic container by providing a high-frequency electric power to the first outer electrode
~~The method for producing DLC film-coated plastic containers as claimed in claim~~
7, wherein lower power is applied to the second outer electrode than to the first outer electrode by capacitive coupling.

9. (currently amended) A method for producing DLC film-coated plastic containers, which comprises disposing a first outer electrode outside a plastic container and along the bottom portion of the plastic container, disposing a second outer electrode outside the plastic container and along the body of the plastic container, disposing a third outer electrode outside the plastic container and along the shoulder of the plastic container, interposing ~~the~~ insulator or resistive or capacitive elements between the first outer electrode and the second outer electrode, disposing an inner electrode inside the plastic container, creating a vacuum in the plastic container, then feeding a raw material gas of a carbon source into the plastic container, and applying a voltage between the first, second and third outer electrodes and the inner electrode thereby to generate plasma to form a DLC film on the inner surface of the plastic container by providing a high-frequency electric power to only the first outer electrode.

10. (currently amended) A method for producing DLC film-coated plastic containers, which comprises disposing a first outer electrode outside a plastic container and along the bottom of the plastic container, disposing a second outer electrode outside the plastic container and above the first outer electrode, disposing at least two additional outer electrodes outside the plastic container and above the second outer electrode, interposing ~~the~~ insulator or resistive or capacitive elements between the first outer electrode and the second outer electrode,
disposing an inner electrode inside the plastic container, creating a vacuum in the plastic container, then feeding a raw material gas of a carbon source into the

plastic container, and applying a voltage between the first and second outer electrodes combined with at least two other outer electrodes above the second outer electrode, and the inner electrode thereby to generate plasma to form a DLC film on the inner surface of the plastic container by providing a high frequency electric power to only the first outer electrode.

11. (currently amended) The method for producing DLC film-coated plastic containers as claimed in claim 9 or 10, wherein lower power is applied to the outer electrodes other than the first outer electrode.

12. (canceled)

13. (canceled)

14. (canceled)

15. (currently amended) A DLC film formed on the surface of a plastic ~~molded article~~ molding said DLC film having a thickness of ~~from 50 to 400~~ 319Å with a standard deviation of 102.6Å a hydrogen content of from ~~16~~ 39 to 52 atomic percent and ~~has~~ a density of 1.42g/cm³ with a standard deviation of 0.04 g/cm³ ~~from 1.22 to 1.50 g/cm³~~.

16. (canceled)

17. (canceled)

18. (canceled)

19. (currently amended) A DLC film-coated plastic container having a DLC film on an inner surface, wherein the DLC film has a thickness of ~~from~~ 237 Å with a

standard deviation of 34.7Å a hydrogen content of from 16 to 52 atomic percent and a density of 1.63g/cm³ with a standard deviation of 0.44 ~~1.22 to 1.59g/cm³~~.

20. (currently amended) The apparatus for producing DLC film-coated plastic containers as claimed in claims 4 or 5 ~~claim 4~~, wherein the high-frequency electric power is imparted to the second outer electrode by capacitive coupling.

21. (currently amended) The apparatus for producing DLC film-coated plastic containers as claimed in claims ~~[[3,]]~~ 4 or 5, wherein the high-frequency electric power is imparted to the outer electrodes other than the first outer electrode by capacitive coupling.

22. (currently amended) The apparatus for producing DLC film-coated plastic containers as claimed in claims ~~1, 3, 4, 5 or 20~~, wherein the insulator or, resistive or capacitive elements are formed to have a thickness through which the high-frequency electric power is able to can be imparted to the outer electrode other than the first outer electrodes by capacitive coupling.

23. (currently amended) The method for producing DLC film-coated plastic containers as claimed in claim ~~7, 8, 9 or 10~~, wherein ~~it is possible to impart~~ the high-frequency electric power required ~~requires~~ for each ~~corresponding part~~ portion of the container other than the bottom portion is imparted by capacitive coupling.

24. (currently amended) The DLC film-coated plastic containers having a DLC film all over the inner surface, wherein the DLC film formed on the inner surface of the bottom of the plastic container has a thickness of from ~~50 to 400~~ 319 Å with a standard deviation of 102.6, a hydrogen content of from 16 ~~39~~ to 52 atomic percent and a density of 1.42g/cm³ with a standard deviation of 0.04 ~~from 1.22 to 1.59~~ g/cm³.

25. (currently amended) A plastic molding of which the DLC film is formed on the surface, having a thickness of from ~~50 to 400~~ 319 Å and a standard deviation of 102.6

Å, a hydrogen content of from ~~16~~ 39 to 52 atomic % and a density of 1.42g/cm³ with a standard deviation of 0.04 ~~from 1.22 to 1.59 g/cm³~~.

26. (previously presented) The plastic molding as claimed in claim 25 which is formed by integral molding.

27. (previously presented) The plastic container as claimed in claims 19 or 24 which is formed by integral molding.

28. (new) A DLC film formed on the surface of a plastic molded article said DLC film having a thickness of 319Å with a standard deviation of 102.6Å, a hydrogen content of from 39 to 52 atomic percent and has a density of from 1.42 g/cm³ with a standard deviation of 0.04g/cm³.

29. (new) A DLC film-coated plastic container having a DLC film on an inner surface, wherein the DLC film has a thickness of 262.6 Å with a standard deviation of 52.72Å a hydrogen content of from 16 to 52 atomic percent and a density of 1.57g/cm³ with a standard deviation of 0.274 g/cm³.